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 037003-0280705   
 1995-30-0233CP3

# INFORMATION DISCLOSURE STATEMENT BY APPLICANT

Applicant ANDERSON, et al.

Appin. No 10/073,138

Filing Date: February 13, 2002

Examiner: Gambel, P. Group Art Unit: 1644

Date: February 6, 2004

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## U.S. PATENT DOCUMENTS

Examiner's Initials*	Document Number	Date MM/YYYY	Name (Family Name of First Inventor)	Class	Sub Class	Filing Date (if appropriate)
RG	AR 4,816,397	03/1989	Boss, et al.	435	68	
	BR 4,816,567	03/1989	Cabilly, et al.	530	387	
	CR 5,116,984	05/1992	Capon, et al.	536	27	
	DR 5,844,095	12/1998	Linsley, et al.			
	ER 5,885,579	03/1999	Linsley, et al.			
	FR 6,051,228	04/2000	Aruffo, et al.			
	GR 6,162,432	12/2000	Wainner, Et al			

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	Document Number	Date MM/YYYY	Country	Inventor Name	English Abstract		Translation Readily Available	
					Enclosed	No	Enclose	No
	HR 0 171 498 B1	05/1993	EP	Taniguchi, et al				
	IR 0 173 494 A2	03/1986	EP	Morrison, et al.				
	JR 0 239 400 B1	08/1994	EP	Winter, et al.				
	KR 0 194 276 A1	03/1988	EP	Neuberger, et al				
	LR 0 451 216 B1	10/1991	EP	Queen, et al.				
	MR 0 555 880 A2, A3	08/1993	EP	Aruffo, et al.				
	NR 0 682 040 A1	11/1995	EP	Queen, et al.				
	OR 2 177 096 A	03/1988	GB	Neuberger, et al				
	PR WO 92/06193	04/1992	WO	Gorman, et al.				
	QR WO 93/09812	05/1993	WO	Lederman, et al				
	RR WO 94/28912	12/1994	WO	Thompson, et al.				
	SR WO 95/06481	03/1995	WO	Noelle, et al.				
	TR WO 95/06666	03/1995	WO	Noelle, et al.				
	UR WO 98/19706	05/1998	WO	Anderson, et al.				

## OTHER (Including in this order Author, Title, Periodical Name, Date, Pertinent Pages, etc.)

VR	Armitage, et al., "Molecular and biological characterization of a murine," <i>Nature</i> , 1992, 357 80-82.
WR	Ben-Nun, et al., "The rapid isolation of clonable antigen-specific T lymphocyte lines capable of mediating autoimmune encephalomyelitis," <i>Eur. J. Immunol.</i> , 1981, 11, 195-199
XR	Biazar, et al., "Infusion of anti-B7.1 (CD80) and anti-B7.2 (CD86) monoclonal antibodies inhibits murine graft-versus-host disease lethality in part via direct effects on CD4+ and CD8+ T cells," <i>J. Immunol.</i> , 1996, 157 3250-3259
YR	Capon, et al., "Designing CD4 immunoadhesins for AIDS therapy," <i>Nature</i> , 1989, 337, 525-531.
ZR	Cohen, J., New protein steals the show as 'costimulator' of T cells, <i>Science</i> , (1993) 262 844-845.

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AAR	Dautigny, et al., "Molecular cloning and nucleotide sequence of a cDNA clone coding for rat brain myelin proteolipid," <i>FEBS Lett.</i> , 1985, 188(1):33-36.
	BBR Delabie, et al., "The B7/BB1 antigen is expressed by Reed-Sternberg cells of Hodgkin's disease and contributes to the stimulating capacity of Hodgkin's disease-derived cell lines," <i>Blood</i> , 1993, 82:2845-52.
CCR	Dillman, et al., "Antibodies as cytotoxic therapy," <i>J Clin. Oncol.</i> , 1994, 12 1497-1515.
DDR	Durie, et al., "The role of CD40 and its ligand (gp39) in peripheral and central tolerance and its contribution to autoimmune disease," <i>Research in Immunology</i> , 1994, 145(3), 200-205 & 244-249.
EER	Durie, et al., "Prevention of collagen-induced arthritis with an antibody to gp39, the ligand for CD40," <i>Science</i> , 1993, 261:1328-1330.
FFR	Falini, et al., "Response of refractory Hodgkin's disease to monoclonal anti-CD30 immunotoxin," <i>Lancet</i> , 1992, 339:1195-1196.
GGR	Freeman, et al., "Uncovering of functional alternative CTLA-4 counter-receptor in B7-deficient mice," <i>Science</i> , 1993, 262:907-909.
HHR	Freeman, et al., "Cloning of B7-2: a CTLA-4 counter-receptor that costimulates human T cell proliferation," <i>Science</i> , 1993, 262 909-911
IIR	Gerritse, et al., "CD40-CD40 ligand interactions in experimental allergic encephalomyelitis and multiple sclerosis," <i>Proc. Natl. Acad. Sci. USA</i> , 1996, 93:2499-2504.
JJR	Gottlieb, et al., "Results of a single-dose dose-escalating trial of an anti-B7.1 antibody (IDEC-114) in patients with psoriasis," <i>J. Invest. Dermatol.</i> , 2000, 114:840, Abstract No. 546.
KKR	Gottlieb, et al., "Clinical and histologic response to single-dose treatment of moderate to severe psoriasis with an anti-CD80 monoclonal antibody," <i>J. Am. Acad. Dermatol.</i> , 2002, 47:693-700.
LLR	Guinan, et al., "Pivotal role of the B7:CD28 pathway in transplantation tolerance and tumor immunity," <i>Blood</i> , 1994, 84:3261-3282
MMR	Hafler, et al., "The potential of restricted T cell recognition of myelin basic protein epitopes in the therapy of multiple sclerosis," <i>Ann. NY Acad. Sci.</i> , 1991, 636:251-265
NNR	Hariharan, et al., "Therapeutic activity of IDEC-114 (anti-CD80) and rituximab (Rituxan®) in B-cell lymphoma," <i>Blood</i> , 2001, 98 (11 part 1), p. 608a (abstract).
OOR	Hathcock, et al., "Identification of an alternative CTLA-4 ligand costimulatory for T cell activation," <i>Science</i> , 1993, 262:905-907.
PPR	Hollenbaugh, et al., "The human T cell antigen gp39, a member of the TNF gene family, is a ligand for the CD40 receptor: expression of a soluble form of gp39 with B cell co-stimulatory activity," <i>EMBO J.</i> , 1992, 11(12) 4313-4321
QQR	Kahan, "Immunosuppressive therapy," <i>Curr Opin Immunol.</i> , 1992, 4:553-560.
RRR	Karpus, et al., "CD4+ suppressor cells differentially affect the production of IFN- $\gamma$ by effector cells of experimental autoimmune encephalomyelitis," <i>J. Immunol.</i> , 1989, 143:3492-3497.
SSR	Kuntz, "Structure-based strategies for drug design and discovery," <i>Science</i> , 1992, 257:1078-82.
TTR	Laman, et al., "The role of gp39 (CD40 ligand) in EAE and MS," <i>Journal of Neuroimmunology</i> , 1994, 54(1-2):175.
UUR	Lederman, et al., "Identification of a novel surface protein on activated CD4+ T cells that induces contact-dependent B cell differentiation (Help)," <i>J. Exp. Med.</i> , 1992, 175:1091-1101
VVR	Lider, et al., "Suppression of experimental autoimmune encephalomyelitis by oral administration of myelin basic protein," <i>J. Immunol.</i> , 1989, 142:748-752
WWR	Linsley, et al., "The role of the CD28 receptor during T cell responses to antigen," <i>Ann. Rev. Immunol.</i> , 1993, 11:191-212.
XXR	Liu, et al., "Blockade of CD28/CTLA-4-B7 co-stimulatory pathway in colitic SCID mice," <i>Digestive Disease Week</i> , May 21-24, 2000, p. A58, Abstract No. 3000
YYR	McCafferty, et al., "Phage antibodies: filamentous phage displaying antibody variable domains," <i>Nature</i> , 1990, 348 552-554
ZZR	Miller, et al., "Antigen-driven bystander suppression after oral administration of antigens," <i>J. Exp. Med.</i> , 1991, 174:791-798.
AAAR	Mokhtarian, et al., "Adoptive transfer of myelin basic protein-sensitized T cells produces chronic relapsing demyelinating disease in mice," <i>Nature</i> , 1984, 309:356-358.
BBBR	Morrison, et al., "Chimeric human antibody molecules: mouse antigen-binding domains with human constant region domains," <i>Proc. Natl. Acad. Sci. USA</i> , 1985, 81:6851-6855.
CCCR	Munro, et al., "In vivo expression of the B7 costimulatory molecule by subsets of antigen-presenting cells and the malignant cells of Hodgkin's disease," <i>Blood</i> , 1994, 83:793-798
DDDR	Ngo, et al., in Merz, Jr. and Le Grand (eds), <i>The Protein Folding Problem and Tertiary Structure Prediction</i> , Birkhauser, Boston, MA, pp. 433 & 492-495

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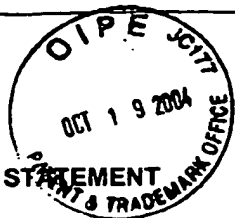
EEER	Nickoloff, et al., "T lymphocytes in skin lesions of psoriasis and mycosis fungoides express B7-1: a ligand for CD28," <i>Blood</i> , 1994, 83:2580-2586.
FFFR	Noelle, et al., "A 39-kDa protein on activated helper T cells binds CD40 and transduces the signal for cognate activation of B cells," <i>Proc. Natl. Acad. Sci. USA</i> , 1992, 89:6550-6554.
GGGR	Oisson, et al., "Human-human monoclonal antibody-producing hybridomas: technical aspects," <i>Methods Enzymol.</i> , 1982 92 3-17.
HHHR	Pernn, et al., "Opposing effects of CTLA4-Ig and anti-CD80 (B7-1) plus anti-CD86 (B7-2) on experimental allergic encephalomyelitis," <i>J. Neuroimmunol.</i> , 1996, 65:31-39.
IIIR	Pesoa, et al., Regulation of experimental allergic encephalomyelitis Part 5. Role of the recipient in suppressor cell induction, <i>J. Neuroimmunol.</i> , 1984, 7 131-135.
JJJR	Pettinelli, et al., "Adoptive transfer of experimental allergic encephalomyelitis in SJL/J mice after <i>in vitro</i> activation of lymph node cells by myelin basic protein: requirement for Lyt 1 <sup>+</sup> 2 <sup>+</sup> T lymphocytes," <i>J. Immunol.</i> , 1979, 127:1420-1423.
KKKR	Skolnick, et al., "From genes to protein structure and function: novel applications of computational approaches in the genomic era," <i>Trends in Biotechnology</i> , 2000, 18:34-9.
LLLR	Sobel, et al., "Acute experimental allergic encephalomyelitis in SJL/J mice induced by a synthetic peptide of myelin proteolipid protein," <i>J. Neuropathol. Exp. Neurol.</i> , 1990, 49(5):468-479.
MMMR	Stamenkovic, et al., "A B-lymphocyte activation molecule related to the nerve growth factor receptor and induced by cytokines in carcinomas," <i>EMBO J.</i> , 1989, 8(5):1403-1410.
NNNR	Suvas, et al., "Distinct role of CD80 and CD86 in the regulation of the activation of B cell and B cell lymphoma," <i>J. Biol. Chem.</i> , 2002 277:7766-7775.
OOOR	Takeda, et al., "Construction of chimaeric processed immunoglobulin genes containing mouse variable and human constant region sequences," <i>Nature</i> , 1985, 314(4):452-454.
PPPR	Teng, et al., "Construction and testing of mouse-human heteromyelomas for human monoclonal antibody production," <i>Proc. Natl. Acad. Sci. USA</i> , 1983, 80:7308-7312.
QQQR	Tuohy, et al., "Identification of an encephalitogenic determinant of myelin proteolipid protein for SJL mice," <i>J. Immunol.</i> , 1989, 142:1523-1527.
RRRR	Van der Veen, et al., "The adoptive transfer of chronic relapsing experimental allergic encephalomyelitis with lymph node cells sensitized to myelin proteolipid protein," <i>J. Neuroimmunol.</i> , 1989, 21:183-191.
SSSR	Ward, et al., "Binding activities of a repertoire of single immunoglobulin variable domains secreted from <i>Escherichia coli</i> ," <i>Nature</i> , 1989, 341 544-546.
TTTR	Ward, et al., "Blocking of adhesion molecules <i>in vivo</i> as anti-inflammatory therapy," <i>Ther. Immunol.</i> , 1994, 1:165-171.
UUUR	Yi-qun, et al., "Differential requirements for co-stimulatory signals from B7 family members by resting versus recently activated memory T cells towards soluble recall antigens," <i>Int. Immunol.</i> , 1996, 8 37-44.

Examiner

Date Considered:

\*EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP § 609 Draw line through citation if not in conformance and not considered Include copy of this form with next communication to Applicant.

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**INFORMATION DISCLOSURE STATEMENT  
BY APPLICANT**

 Atty. Ref. No.  
037003-0280705

 Client Ref.  
1995-30-0233CP3

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Appln. No.: 10/073,138

Filing Date: February 13, 2002

Examiner: Gambel, P. Group Art Unit: 1644

Date: October 15, 2004

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**U.S. PATENT DOCUMENTS**

Examiner's Initials*	Document Number	Date MM/YYYY	Name (Family Name of First Inventor)	Class	Sub Class	Filing Date (if appropriate)
W	AR 5,304,635	04/1994	Imam			
	BR					
	CR					

**FOREIGN PATENT DOCUMENTS**

	Document Number	Date MM/YYYY	Country	Inventor Name	English Abstract		Translation Readily Available	
					Enclosed	No	Enclose	No
	DR							
	ER							
	FR							

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W	GR	Alegre M., et al, "Effect of single amino acid mutation on the activating and immunosuppressive properties of a "Humanized" OKT3 monoclonal antibody," J. Immunol., 1992, 148:3461-3468.						
1	HR	Azuma M., et al., "CD28 Interaction with B7 Costimulates Primary Allogeneic Proliferative Responses and Cytotoxicity Mediated by Small Resting T Lymphocytes," J. Exp. Med., 1992, 175:353-360.						
	IR	Azuma M., et al., "Functional Expression of B7/BB1 on Activated T Lymphocytes," J. Exp. Med., 1993, 177:845-850.						
	JR	Azuma M.D., et al., "B70 Antigen is a Second Ligand for CTLA-4 and CD28," Nature, 1993, 366:76-79.						
	KR	Boussiotis V.A., et al., "Activated human B lymphocytes express three CTLA-4 counter-receptors that co-stimulate T-Cell activation," Proc. Natl. Acad. Sci., USA, 1993, 90:11059-11063.						
	LR	Cohen J., "Mounting a targeted strike on unwanted immune responses," (news; comment), Science, 1992, 257:751.						
	MR	De Boer M., et al., "Functional Characterization of a Novel Anti-B7 Monoclonal Antibody," Eur. Journal of Immunology, 1992, 22:3071-3075.						
	NR	Dermer G.B., et al., "Another Anniversary for the war on cancer," Biotechnology, 1994, 12:320.						
	OR	Engel et al, "The B7-2 (B70) costimulatory molecule expressed by monocytes and activated B lymphocytes is the CD86 differentiation antigen," Blood, 1994, 84, 1402-1407.						
	PR	Freeman G.J., et al., "CTLA-4 and CD28 mRNA are Coexpressed in Most T Cells After Activation," The Journal of Immunology, 1992, 149:3795-3801						
	QR	Geenen V. and G. Kroemer, "Multiple Ways to Cellular Immune Tolerance," Immunology Today, 1993, 14:573.						
	RR	Gimmi C.D., et al., "Human T-Cell Clonal Anergy is Induced by Antigen Presentation in the Absence of B7 Costimulation," Proc. Natl. Acad. Sci., 1993, 90:6586-6590.						
	SR	Gribben J.G., et al., "CTLA-4 mediates antigen specific apoptosis of human T cells." Proc. Natl. Acad. Sci. USA, 1995, 92:811-815.						
	TR	Grumet F.C., et al., "Soluble form of an HLA-B7 Class I Antigen Specifically Suppresses Humoral Alloimmunization." Human Immunology, 1994, 40:228-234.						
	UR	Harding F.A., et al., "CD28 Mediated Signalling Co-stimulates Murine T Cells and Prevents Induction of Anergy in T Cell Clones." Nature, 1992, 356:607-609.						
	VR	Hart D.N.J., et al., "B7/BB-1 is a Leucocyte Differentiation Antigen on Human Dendritic Cells Induced by Activation." Immunology, 1993, 79:616-620						
W	WR	Ionescu-Tirgoviste, et al, "Correlations between insulin antibodies and the HLA system in a group of Type I diabetic patients in Bucharest," Med. Interre, 1986, 24(1), 11-17.						

pb	XR	Jeneway C.A., Jr. and K. Bottomly, "Signals and Signs for Lymphocyte Responses," Cell, 1994, 76:275-285.
	YR	Jenkins M.K., "The Role of Cell Division in the Induction of Clonal Anergy," Immunology Today, 1992, 13:69.
	ZR	June C.H., et al., "The B7 and CD28 receptor families," Immunol Today, 1994, 15:321-331.
	AAR	Krummel M., et al., "CD28 and CTLA-4 have opposing effects on the response of T cells to stimulation," J. Exp. Med. 1995, 182:459-466.
	BBR	LaSalle J.M., et al., "Early signaling defects in human T cells anergized by T cell presentation of autoantigen," J. Exp. Med., 1992, 176:177-186.
	CCR	Lenschow D.J., et al., "Long-Term Survival of Xenogeneic Pancreatic Islet Grafts Induced by CTLA-4Ig," Science, 1992, 257:789-795.
	DDR	Lenschow D.J., et al., "Expression and Functional Significance of an Additional Ligand for CTLA-4," Proc. Natl. Acad. Sci., USA, 1993, 90:11054-11058.
	EER	Lin H., et al., "Long-term Acceptance of Major Histocompatibility Complex Mismatched Cardiac Allografts Induced by CTLA-4-Ig Plus Donor Specific Transfusion," J. Exp. Med., 1993, 178:1801.
	FFR	Linsley, P.S., et al., "CTLA-4 is a Second Receptor for the B Cell Activation Antigen B7," J. Exp. Med., 1991, 174:561.
	GGR	Linsley P.S., et al., "T-Cell Antigen CD28 Mediates Adhesion with B Cells by Interacting with Activation Antigen B7/BB-1." Proc. Natl. Acad. Sci., 1990, 87:5031-5035.
	HHR	Linsley, et al, "CD28 Engagement by B7/BB-1 Induces Transient Down-Regulation of CD28 Synthesis and Prolonged Unresponsiveness to CD28 Signaling," The Journal of Immunology, 1993, 150:3161-3169.
	IIR	Linsley, et al., "Binding of the B cell activation antigen B7 to CD28 costimulates T cell proliferation and interleukin 2 mRNA accumulation," J. Exp. Med., 1991, 173:721-730.
	JJR	Linsley P.S., et al., "Coexpression and Functional Cooperation of CTLA-4 and CD28 on Activated T Lymphocytes," J. Exp. Med., 1992, 176:1595-1604.
	KKR	Morton P.A., et al., "Differential effects of CTLA-4 substitutions on the binding of human CD80 (B7-1) and CD86 (B7-2)," J. Immunol., 1996, 156:1047-1054.
	LLR	Nestle F.O., et al, "Characterization of dermal dendritic cells in psoriasis," J. Clin. Invest., 1994, 94: 202-209.
	MMR	Schwartz R.H., "Co-stimulation of T lymphocytes: The role of CD28, CTLA-4, and B7/BB1 in interleukin-2 production and immunotherapy," Cell, 1992, 71:1065-1068.
	NNR	Schwartz R.H., "A cell culture model for T lymphocyte clonal anergy," Science, 1990, 248:1349-1356.
	OOR	Selvakumar, A., et al., "Genomic organization and chromosomal location of the human gene encoding the B-lymphocyte activation antigen B7," Immunogenetics, 1992, 36:175-181
	PPR	Tan P., et al., "Induction of Alloantigen-specific Hyporesponsiveness in Human T Lymphocytes by Blocking Interaction of CD28 with Its Natural Ligand B7/BB1," J. Exp. Med., 1993, 177:165-173.
	QQR	Tivol E.A., et al., "Loss of CTLA-4 leads to massive lymphoproliferation and fatal multiorgan tissue destruction, revealing a critical negative regulatory role of CTLA-4," Immunity, 1995, 3:541-547.
	RRR	Turka L.A., et al., "T-cell activation by the CD28 ligand B7 is required for cardiac allograft rejection in vivo," Proc. Natl. Acad. Sci., USA, 1992, 89:11102-11105.
	SSR	Toubert A., et al., "Epitope mapping of an HLA-B27 monoclonal antibody that also reacts with a 35-kD bacterial out-membrane protein," Clin. Exp. Immunol., 1990, 82(1), 16-20.
	TTR	Toubert A., et al., "Epitope mapping of HLA-B27 and HLA-B7 antigens by using intradomain recombinants," J. Immunol., 1988, 141(7), 2503-9.
	UUR	Valle et al., "mAb 104, a new monoclonal antibody, recognizes the B7 antigen that is expressed on activated B cells and HTLV-1-transformed T cells," Immunol., 1990, 69(4), 531-535.
	VVR	Vandenberghe P., et al., "Antibody and B7/BB1-mediated ligation of the CD28 receptor induces tyrosine phosphorylation in human T cells," J. Exp. Med., 1992, 175:951-960.
	WWR	van der Merwe, et al., "CD80 (B7-1) binds both CD28 and CTLA-4 with a low affinity and very fast kinetics," J. Exp. Med., 1997, 185: 393-403.
	XXR	Weyl D., et al., "Epitope mapping of human monoclonal antibodies to HLA-B27 by using natural and mutated antigenic variants," Hum. Immunol., 1991, 31(4), 271-276.
W	YYR	Zavazava N., et al, "Inhibition of anti-HLA-B7 alloreactive CTL by affinity-purified soluble HLA," Transplantation, 1991, 51(4), 838-42.

Examiner

*Philip P. Canale* 2/18/05

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\*EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP § 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.